DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service
National Institutes of Health

John E. Fogarty International Center
for Advanced Study in the Health Sciences

Advisory Board
Summary Minutes

Date: May 23, 2006
Place: Lawton Chiles International House
National Institutes of Health

DEPARTMENT OF HEALTH AND HUMAN SERVICES

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John E. Fogarty International Center
for Advanced Study in the Health Sciences

Sixty-third Meeting of the Advisory Board

Minutes of Meeting
May 23, 2006

The John E. Fogarty International Center for Advanced Study in the Health Sciences (FIC) convened the sixty-third meeting of its Advisory Board on Tuesday, May 23, 2006, at 8:30 a.m., in the Conference Room of the Lawton Chiles International House, National Institutes of Health (NIH), Bethesda, Maryland. The meeting was open to the public from 8:30 a.m. to 12:15 p.m., followed by the closed session, from 1:00 p.m. to adjournment at 3:00 p.m., as provided in Sections 552b(c) (4) and 552b(c) (6), Title 5, U.S. Code, and Section 10 (d) of Public Law 92-463, for the review, discussion, and evaluation of grant applications and related information.[1] Dr. Sharon Hrynkow, Chair, Fogarty International Center Advisory Board, and Deputy Director, FIC, presided. The Board roster is appended as Attachment 1.

I. Call to Order and Welcome
II. Remarks by the Director, FIC
III. Minutes of Previous Meeting
IV. Review of Confidentiality and Conflict of Interest
V. Dates of Future Board Meetings
VI. Report of the Acting Director
VII. Report from the Divisions
VIII. Remarks by the Director, NIH
IX. Global Mental Health: The Research Agenda for Low- and Middle-Income Countries
X. Review of Applications

Board Members Present:

Dr. Wafaie Fawzi
Dr. Douglas C. Heimburger
Dr. Arthur Kleinman
Dr. Sharon L. Ramey
Dr. Lee W. Riley
Dr. William A. Vega
Dr. May L. Wykle

Board Members Absent:

Dr. Elizabeth Barrett-Connor
Dr. Patricia M. Danzon
Dr. Robert R. Redfield

[1] Members absent themselves from the meeting when the Board discusses applications from their own institutions or when a conflict of interest might occur. The procedure applies only to individual applications discussed, not to *en bloc* actions.

Members of the Public Present:

Dr. Linda Burhansstipanov, Director, Native American Cancer Center, Pine, CO
Ms. Cindi Warren Mentz, Director, Middle East–Northern Africa Programs, U.S. Civilian Research & Development Foundation, Arlington, VA
Dr. Moussa Traoré, former Dean and Professor, Faculty of Medicine, Pharmacy, and Odontostomatology, School of Medicine, University of Bamako, Republic of Mali

Federal Employees Present:

Mr. Kevin Bialy, FIC/NIH
Dr. Joel Breman, FIC/NIH
Mr. Bruce Butrum, FIC/NIH
Ms. Tina Chung, FIC/NIH
Dr. Lois K. Cohen, NIDCR/NIH
Dr. E. Ann Davis, FIC/NIH
Dr. Jean Flagg-Newton, FIC/NIH
Dr. Henry Francis, FIC/NIH
Dr. Dan Gerendasy, CSR/NIH
Dr. Roger I. Glass, FIC/NIH
Mr. George Herrfurth, FIC/NIH
Dr. James Herrington, FIC/NIH
Dr. Karen J. Hofman, FIC/NIH
Dr. Sharon Hrynkow, FIC/NIH
Mr. Andrew Jones, FIC/NIH
Dr. Flora Katz, FIC/NIH
Dr. Richard M. Krause, FIC/NIH
Dr. Danuta Krotoski, NICHD/NIH
Dr. Linda Kupfer, FIC/NIH
Ms. Hannah Leslie, FIC/NIH
Ms. Judy Levin, FIC/NIH
Dr. Yuan Liu, NINDS/NIH
Ms. Sonja Madera, FIC/NIH
Mr. John Makulowich, FIC/NIH
Dr. Jeanne McDermott, FIC/NIH
Dr. Kathleen Michels, FIC/NIH
Dr. Mark A. Miller, FIC/NIH
Mr. Richard Miller, FIC/NIH
Ms. Olamide Ogunyankin, FIC/NIH
Ms. Sherri Park, NICHD/NIH
Dr. Kim Pham, FIC/NIH
Dr. Aron Primack, FIC/NIH
Dr. Joshua Rosenthal, FIC/NIH
Dr. Christopher Schonwalder, FIC/NIH
Ms. Natalie Tomitch, OD/NIH
Ms. Helen Wegman, NHLBI/NIH

Ms. Patricia Williams, FIC/NIH
Mr. Randolph Williams, FIC/NIH
Dr. Elias A. Zerhouni, OD/NIH

OPEN SESSION

I. CALL TO ORDER AND WELCOME

Dr. Sharon Hrynkow called the meeting to order and welcomed the Board members and attendees. She introduced and welcomed Dr. Roger I. Glass, the new director of FIC and associate director of NIH for international research programs, effective May 22. Dr. Glass is the former chief of the Viral Gastroenteritis Section, Centers for Disease Control and Prevention (CDC). He has had a long and distinguished career in infectious diseases and is an expert on rotaviruses and the use of rotavirus vaccines in the United States and globally.

Dr. Hrynkow welcomed Dr. Moussa Traoré, former Dean and Professor, Faculty of Medicine, Pharmacy, and Odontostomatology, School of Medicine, University of Bamako, Republic of Mali. She noted that the NIH and Dr. Traoré have had a longstanding relationship, particularly in malaria research and training, and are exploring possible collaborations in neuroscience and other areas. Dr. Hrynkow also welcomed Ms. Cindi Warren Mentz, Director, Middle East–Northern Africa Programs, U.S. Civilian Research & Development Foundation, and Dr. Linda Burhansstipanov, Director, Native American Cancer Center, Pine, Colorado and incoming FIC Board member.

Dr. Hrynkow welcomed the following guests from other NIH institutes and centers (ICs): Dr. Yuan Liu, National Institute of Neurological Disorders and Stroke (NINDS); Ms. Helen Wegman, National Heart, Lung, and Blood Institute (NHLBI), Dr. Lois K. Cohen, National Institute of Dental and Craniofacial Research (NIDCR); Dr. Danuta Krotoski, National Institute of Child Health and Human Development (NICHD); and Ms. Natalie Tomitch, Office of AIDS Research (OAR), Office of the Director, NIH. Dr. Hrynkow noted that Dr. Cohen has been a mainstay of international programs at the NIH and is retiring from Federal service after 42 years.

Dr. Hrynkow noted that the extended terms of two Board members, Drs. Robert R. Redfield and Sharon L. Ramey, were ending in July—both agreed to extend their service on the Board for 6 months to accommodate the transition to the new FIC leadership. On behalf of FIC and the Board, Dr. Hrynkow recognized the services of both Board members. She presented a certificate of appreciation to Dr. Ramey and thanked her for her insights, energy, and friendship with FIC. A certificate will be mailed to Dr. Redfield, who was unable to attend the meeting.

Dr. Ramey expressed her appreciation for the opportunity to serve on the Board. She noted that FIC staff are exceptionally competent, dedicated, and innovative. Dr. Ramey commented that the level of funding for FIC is woefully inadequate for the importance and significance of FIC programs, and she urged corrective action to increase FIC funding. She remarked that FIC programs, by necessity, have always been inter-, multi-, and transdisciplinary, and therefore fit well

within the NIH Roadmap for Medical Research. She encouraged, in particular, closer attention internationally to the interdependence of education and health.

II. REMARKS BY THE DIRECTOR

Dr. Roger I. Glass, Director, FIC

Dr. Glass commented on the importance of global health and international cooperation and the role of FIC at the NIH and globally. He noted that he has known about FIC for years and, recently, while traveling with the director of NIH, Dr. Elias Zerhouni, to Egypt and China to launch the publications of the Disease Control Priorities Project (DCPP), was impressed by the many individuals who approached him to extol the virtues and benefits of their experiences with FIC training programs and the NIH Visiting Program.

Dr. Glass noted that research training has been one of the greatest contributions of FIC to global health. This training has enabled the United States to establish scientific contacts worldwide, ensure that good science is conducted, and aid the cause of public health in many countries, including China and India where striking improvements in health and longevity are evident. Dr. Glass remarked that the background of FIC in training and the unique role of the FIC as a major promoter of global health and international collaboration give the FIC an "upper hand" diplomatically in public health and improvements in health and provide a grounding on which to build.

Dr. Glass highlighted the importance of collaborations and partnerships in stressing the vision and message of global health. He noted that now, at the beginning of the 21st century, many foundations and international agencies are attracted to the cause of global health and recognize that investments in world health are equally as productive as investments in other sectors of the world's infrastructure.

Dr. Glass said that the excitement ahead for FIC is to craft a vision and role that both captures this new spirit and builds on the FIC history and tradition to forge a position of leadership in medical research, global health, and international understanding. And, because many ICs at NIH do not yet have a major investment in international health despite the global health needs and the possibilities and prospects for research, as described in the DCPP publications, part of the FIC agenda is to convey these opportunities to other ICs and to help them redirect some of their interests.

Dr. Glass noted the dedication and commitment of FIC staff to global health issues; and he said he would seek the Board's support and advice. In the next several months, FIC will identify some "quick fixes and actions" to take this year to begin to move in some new and exciting directions. The FIC also will undertake development of a strategic plan within the year. Important activities will include a communications program, to "get our message out," and identification of non-traditional partners (e.g., multinational corporations, expatriates, foreign nationals), as well as traditional partners, that are interested in the international agenda for health.

III. MINUTES OF PREVIOUS MEETING

The minutes of the Advisory Board meeting of February 7, 2006, were considered and approved unanimously.

IV. REVIEW OF CONFIDENTIALITY AND CONFLICT OF INTEREST

The rules and regulations pertaining to conflict of interest were maintained.

V. DATES OF FUTURE BOARD MEETINGS

The following meeting dates are confirmed:

Tuesday, September 12, 2006
Tuesday, February 6, 2007
Tuesday, May 22, 2007
Tuesday, September 11, 2007

Tuesday, February 5, 2008
Tuesday, May 20, 2008
Tuesday, September 9, 2008.

The Research Awards Subcommittee will meet on the Monday preceding each Board meeting to review applications on behalf of the full Board.

VI. REPORT OF THE ACTING DIRECTOR
Dr. Sharon H. Hrynkow, Deputy Director, FIC

Dr. Hrynkow reported on activities since the Board's previous meeting, in February 2006. The written Report of the Director is appended as Attachment 2. Highlights are below.

Personnel Changes

Dr. Hrynkow noted that Dr. Alan Spiegel, director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) has become dean of the Albert Einstein College of Medicine, Yeshiva University, New York. Dr. Griffin P. Rodgers has been appointed acting director of NIDDK. Dr. Hrynkow also noted that Dr. Susan B. Shurin has been named deputy director of NHLBI.

FIC Budget

Mr. Richard Miller, Executive Officer, FIC, reported on the Fiscal Year (FY) 2007 budget. The President's FY 2007 budget request for the NIH is approximately $28.6 billion, the same as the FY 2006 appropriated budget. The amount requested for the FIC is approximately $66.7 million,

which is an increase of 0.5 percent (or $303,000) over the FY 2006 level, and the FY 2006 level was about 0.4 percent higher than the FY 2005 level.

Dr. Zerhouni has testified before both the Senate and House on the FY 2007 budget request for the NIH. Both the Senate and the House are considering budget resolutions that would increase the NIH appropriation above that requested in the President's budget. The Senate is considering an increase of about $2 billion, and the House is considering an increase of about $1 billion.

Congressional Briefings

Dr. Hrynkow reported that she recently participated in a briefing requested by Representative Russell Carnahan (D-MO) to discuss international health and women's issues. In early May, Dr. Dean Jamison, Fellow, FIC, participated in a Senate hearing on the DCPP, which is receiving significant press and attention in Washington, D.C., and elsewhere in the world.

FIC Extramural Programs and Initiatives

Extramural Outreach. Dr. Hrynkow noted that, on March 10, FIC staff briefed Dr. Zerhouni on FIC extramural activities, as well as the DCPP and the FIC in-house epidemiology program. In February, Dr. Hrynkow addressed the advisory council of the National Center for Minority Health and Health Disparities (NCMHD). She discussed existing collaborations between the FIC and NCMHD and opportunities for the future, such as linking historically black colleges and universities and Hispanic-serving institutions more directly with FIC programs.

Framework Programs for Global Health. Dr. Hrynkow commented that the FIC continues to issue program announcements. She noted that the FIC has received a robust number of applications from developing countries and U.S. universities for a second round of Framework Programs for Global Health, which utilizes a new model that links multiple schools within a university or consortia of universities focused on a global health topic. She thanked Dr. Flora Katz for her outstanding efforts in leading this new program. The Board will review the applications at its September 2006 meeting.

NIH International Representatives. Dr. Hrynkow noted that the FIC is a focal point for international activities across the NIH. In addition to its leadership on the DCPP, which brought together many ICs, FIC leads the ICs' International Representatives. At the May meeting of this group, Dr. Michael Gottlieb, Associate Director for Science, Foundation for the National Institutes of Health, spoke on the Grand Challenges for Global Health, which was launched in 2003.

Women Scientists. On May 8, FIC teamed with the NIH Office of Research on Women's Health for the third consecutive year to host an International Women's Day at the NIH. Dr. Hrynkow noted that this celebration is an opportunity to highlight the work of foreign women scientists on the NIH campus. As follow up to the FIC-hosted colloquium for career paths for women in science from the developing world, held in October 2005, FIC has taken the lead in an effort to use Elluminate technology for leadership training of young women in science in Latin America. This FIC pilot effort is being coordinated with the United Nations Education, Scientific, and Cultural Organization (UNESCO) Chair for Women, Science, and Technology in Latin

America. Dr. Hrynkow acknowledged the fine work of Ms. Hannah Leslie, Staff Assistant, in leading the International Women's Day effort and Dr. Ana Chepelinsky, Program Director for the Americas, for leading the pilot effort on Internet mentoring.

International Relations

Dr. Hrynkow highlighted two high-level activities. She noted that the NIH Director signed a Letter of Intent with the Director of Mexico's National Council on Science and Technology (CONACYT). This signing was a direct follow up to Dr. Zerhouni's visit to Mexico in November 2004. The intent is to strengthen biomedical research cooperation between Mexico and the United States, and the action plan includes scientific exchanges and the training of mid-career and senior scientists in both countries.

Dr. Hrynkow noted that she represented the NIH at the US–Japan Joint High Level Committee Meeting, which was chaired by the Science Advisor to the President, Dr. John Marburger. The medical research agenda included discussion of opportunities for interdisciplinary research, U.S. postdoctoral training in Japan, and training of Asian–Pacific scientists on global health issues.

Conclusion

Dr. Hrynkow thanked the Board and FIC staff for their help and support in moving FIC forward during her tenure as Acting Director, FIC. Dr. Glass invited the Board and staff's applause for Dr. Hrynkow and her ability to manage and maintain FIC activities during a period of change and uncertainty. He noted the professional dedication of the staff and said that he feels "like a farmer who has come to buy the farm just as the harvest is ready."

VII. REPORT FROM THE DIVISIONS

The four FIC division directors described the current activities and future challenges in each of their programs.

Division of Advanced Studies and Policy
Dr. Karen J. Hofman, Director, Division of Advanced Studies and Policy (DASPA)

Dr. Hofman discussed the importance of evaluations for all FIC programs, which DASPA staff conducts in collaboration with program staff. The evaluations are supported by set-aside funds from the NIH Office of the Director, which are awarded to ICs on a competitive basis. In the past several years, FIC has completed evaluations of the following FIC programs: International Cooperative Biodiversity Groups, Multilateral Initiative on Malaria, International Training and Research Program in Population and Health (POP), International Bioethics Education and Career Development Award, and Ecology of Infectious Diseases. The staff is completing an evaluation of the Fogarty International Research Collaboration Award (FIRCA) program; and a full evaluation of the 15-year-old AIDS International Training and Research Program (AITRP) is underway. A brief review of the International Collaborative Genetics Research Training program is planned for July.

FIC uses the evaluation data to respond to requests for information received from the NIH Office of the Director and Congress and to communicate with the public. The data show the broad reach of FIC programs. For example, the FIC's POP has supported research training for 200 long-term and 300 short-term trainees from more than 30 countries, as well as 150 workshops attended by 10,000 participants. As typical in many FIC programs, at least two-thirds of the trainees have returned to their home countries. The trainees have been successful in subsequently receiving NIH grants and have authored more than 300 publications in peer review journals. Even in small programs, such as the FIRCA and AIDS-FIRCA programs, FIC support has resulted in collaborative publications appearing mostly in Western peer-reviewed journals. These two programs resulted in at least three publications per collaboration; and the top 10 collaborations published 12 or more papers.

Evaluation of the bioethics program shows that FIC support resulted in leadership roles for trainees, development of many new institutional review boards and new bioethics policies, and receipt of additional training grants. For example, graduates of the program in Ecuador, India, Nigeria, and South Africa have assumed prominent national or regional positions in bioethics. One graduate in South Africa is leading a $10 million ethics program cofunded by Gates' Grand Challenges for Global Health.

Dr. Hofman highlighted two recommendations which consistently arose from the program evaluations: development of a system for tracking trainees, and addition of representatives from developing countries to the review panels. She noted that the trainee tracking system will be in place within the next year or so and that FIC has added scientists from developing countries to the review panels. Because of the costs of traveling these scientists, FIC is exploring the use of videoconferencing in peer reviews.

Dr. Hofman noted that, with Dr. Glass' recent appointment, the timing for preparing an FIC strategic plan is excellent. A critical re-examination of FIC's current investments and plans is essential for maximizing the impact of FIC's small budget. Two key questions to consider are: What is the minimum size and duration of a program to have a meaningful impact on science or public health? Is there a need to limit program areas to specific geographic regions or levels of scientific development, for example, in different settings?

Division of International Epidemiology and Population Studies

Dr. Mark A. Miller, Director, Division of International Epidemiology and Population Studies (DIEPS)

Dr. Miller noted that the division, which was established in FY 2001, conducts health outcomes-based research, integrating multidisciplinary, largely secondary-source data to study the determinants of disease burden and the transmission and control of infectious diseases. This FIC activity is closely aligned with the aims of the NIH Roadmap. It includes collaborations with other ICs, mostly the National Institute of Allergy and Infectious Diseases (NIAID) and NICHD, to identify opportunities for translational and clinical research and unique populations in which to conduct studies. The specific research interests are vaccine-preventable diseases (e.g., malaria), infectious diseases (e.g., as in bioterrorism, zoonotic microbes), and vaccine development.

Dr. Miller conveyed the work of DIEPS in terms of a "PIE" chart (Productivity, Impact, and Efficiency). Highlighting the division's productivity, he noted that DIEPS staff have published

more than 150 papers in 5 years. Thus far in FY 2006, staff have published 41 papers, which include papers on the transmission and pathogenicity of influenza, aspects of foot and mouth disease, and H5N1 avian influenza vaccine constructs.

To maximize its impact, DIEPS focuses on diseases that have been neglected historically, are of universal importance, or are highly transmissible. For example, staff have published a number of papers on multinational influenza seasonal mortality studies. In addition, DIEPS has organized the U.S. Department of Health and Human Services (DHHS) working group on smallpox and anthrax modeling. Staff's introduction of concepts of modeling infectious diseases to government has led to two large-scale modeling efforts at the NIH. And, using scientific evidence, staff have challenged the conventional wisdom of public health strategies related to influenza vaccination and diagnosis and control of malaria and mixed-species infections.

Dr. Miller said that the DIEPS budget approximates $600,000 to $1 million a year, or about 1.0–1.5 percent of the FIC budget. Over the past 5 years, DIEPS has received approximately $2 million in additional funding from DHHS, the Bill & Melinda Gates Foundation, and other ICs. The budget supports four postdoctoral researchers, four Intergovernmental Personnel Act (IPA) staff, and a number of guest researchers. Despite its limited funding and few staff, DIEPS has been able to collaborate actively with several ICs and numerous partners outside the NIH and to utilize administrative flexibility and contractual mechanisms to pursue innovative ideas and develop measurable products—as scientific documents, changes in public health practices, and policy initiatives.

Dr. Miller welcomed a review and evaluation of DIEPS. A major issue is whether the DIEPS program should remain a catalytic organization, be sustaining, and or be scaled up.

Division of International Relations

Dr. James Herrington, Director, Division of International Relations (DIR)

Dr. Herrington reported that the purpose of the division is to serve the ICs. DIR staff consist of the director, an administrative person, two program specialists, and seven program officers which individually cover multilateral organizations; Russia, Eurasia, Central and Eastern Europe, and Arctic Affairs; Middle East and North Africa; Asia; the Americas and the Caribbean; Sub-Saharan Africa; and the European Union.

Functionally, DIR staff serve on Federal interagency committees (e.g., within DHHS, with the Department of State), analyze and report on NIH visits and NIH funding in other countries, and participate in intra-NIH working groups (e.g., on nutrition, nanotechnology). In addition, DIR staff garner and provide scientific information and input for the U.S. Government and international organizations (e.g., to the World Health Assembly) and act as a "window" into NIH for other FIC divisions. Most important is DIR's diplomatic relations function. Staff interact with foreign embassies' science and technology officers, communicating NIH policies and opportunities to them. In support of the NIH mission, DIR promotes public–private partnerships on poorly attended social and health issues (e.g., related to specific diseases or affecting minority or marginalized populations), as well as opportunities for bilateral research in emerging markets (e.g., Brazil, China, India) and for innovative research in developing countries (e.g., tobacco/alcohol/drug abuse behaviors, inexpensive disease prevention strategies, vaccine delivery).

Dr. Herrington noted that the challenge DIR faces is to "do more with less." Although the DIR budget and staffing remained relatively flat from FY 1994 to FY 2004, the programs which the DIR services across the NIH have increased—foreign research grants, foreign components of domestic grants, training grants, and the Visiting Program. He noted that, to serve the expanding opportunities at NIH for foreign research and training, the DIR could "do better with a little bit more" of resources.

Division of International Training and Research

Dr. Joshua Rosenthal, Deputy Director, Division of International Training and Research (DITR)

Dr. Rosenthal noted that DITR is a fertile environment for growth and change. This extramural FIC division consists of 12 full-time employees, which include 9 scientists of richly diverse research and training backgrounds. They administer FIC research and research training grants and fellowship programs.

During FY 1999–2004—the 5-year period of rapid budget expansion across the NIH—DITR utilized its expanding appropriated and cofunded budget to create a variety of new research and training directions and programs. The greatest investment was, and continues to be, in research training. During FY 2001–04, FIC expanded its investment in research programs. Beginning in FY 2005, as funding stabilized, FIC began to contract the total number of extramural programs supported. Dr. Rosenthal noted that DITR has been successful in catalyzing efforts by other ICs and the National Science Foundation (NSF) to cofund FIC research and research training programs. For the Ecology of Infectious Diseases program, for example, DITR successfully leveraged FIC support of approximately $3 million a year to gain several million dollars more in funding from other ICs, as well as $10 million a year from the NSF.

The challenge that DITR and FIC face is how to address the growing interest and enormous opportunities in global health, and the changing demographics for global health, with a relatively flat and potentially declining budget and other administrative issues (e.g., shortage of staff). Given DITR's limited resources and complicated set of numerous programs, staff are considering several strategies. These include (a) finding ways to consolidate the DITR program into administrative units that are more flexible and reduce FIC investment and requirements of staff, (b) terminating non-growing programs, (c) reducing the size of FIC awards, (d) identifying resources (e.g., from other FIC programs, new partnerships) to support new and exciting efforts, and (e) tracking all the changes made.

The effort to reorganize FIC extramural programs has already begun. In the past year, for example, DITR completed the multi-year consolidation of FIC research and training programs in infectious diseases into one Program Announcement, downsized the International Studies on Health and Economic Development program, and terminated two programs—International Maternal and Child Health Research and Training, and International Health, Environment, and Economic Development. For the Brain Disorders in the Developing World: Research across the Lifespan program, DITR staff creatively combined FIC support of R21 training grants with IC support of R01 awards, and this model may be an effective strategy for other FIC programs.

Dr. Rosenthal anticipated many important opportunities for change and growth ahead. He noted several core features of FIC that create opportunities for the FIC. These include the unique role of the FIC at the NIH and internationally, onsite expertise, broad and increasingly recognized leadership, and strong staff and community support. Externally, FIC benefits from the enormous public interest in global health, the tremendous momentum of the DCPP, and the excitement and commitment of its grantees.

VIII. REMARKS BY THE DIRECTOR, NIH

Dr. Elias A. Zerhouni, Director, NIH

Dr. Zerhouni opened by inviting a round of applause for the new FIC Director, Dr. Glass, and by recognizing the interim leadership of Dr. Hrynkow as the FIC Acting Director. In his remarks, Dr. Zerhouni reported on the state of NIH, "drivers" affecting the NIH, and implications for the future. He provided to the Board copies of his congressional testimony on the President's FY 2007 budget request.

Dr. Zerhouni noted that a "perfect storm" of multiple factors—Federal and trade deficits, defense and homeland security needs, the budget effects of Katrina, and a potential flu pandemic—are affecting the NIH. In addition, there are "post-doubling" effects and expectations arising from the doubling of the NIH budget over 5 years, an emphasis on the physical sciences instead of the biological sciences, and a biomedical research inflation factor that is higher than the general inflation.

In the midst of this perfect storm, NIH is confronting a number of myths about the NIH budget. Dr. Zerhouni documented the reality that belies these myths and emphasized the need for NIH to focus on its core values. He addressed the following three myths: that NIH is giving more emphasis to applied research versus basic science; shifting toward more solicited, "top-down" targeted research versus unsolicited, "bottom-up" investigator-initiated research; and favoring the NIH Roadmap activities. Dr. Zerhouni presented data which clearly showed that (i) the NIH is maintaining its historical balance of support for basic and applied research; (ii) unsolicited research grant awards continue to far outnumber solicited research grant awards (93 percent vs. 4 percent in FY 2005); and (iii) NIH Roadmap activities are, and will continue to be, a very small proportion of the overall NIH effort.

Dr. Zerhouni noted that, in FY 2006, NIH Roadmap activities consumed only 1 percent of the NIH budget. This proportion will increase to 1.2 percent in FY 2007 and remain flat thereafter. The funding in FY 2006 supported 430 awards; of these, 40 percent were for basic research, 40 percent for translational research, and 20 percent for "high-risk" research. "Two main 'drivers' affecting the biomedical research enterprise," Dr. Zerhouni said, "are (a) the large capacity building that occurred at U.S. universities and research institutions over the past 5 years, and (b) the increase in number of tenure-track faculty."

Dr. Zerhouni noted that the NIH Roadmap is a process, rather than an initiative, for creating synergy across the NIH and for stimulating innovative research. He noted that two recipients of the Pioneer Award, a Roadmap initiative, are FIC grantees. He further noted that the NIH Roadmap was developed in response to needs conveyed by nationally recognized leaders in academia,

industry, and the public and is embraced by the Congress, the Administration, and many NIH advocacy groups. "As the NIH moves forward," Dr. Zerhouni said, "it needs strong leadership and good management across the NIH, including the FIC and the FIC Advisory Board."

Dr. Zerhouni noted that the 5-year doubling of the NIH budget stimulated a temporal shift in the supply of, and subsequent demand for, research dollars. Beginning in FY 2003, the NIH experienced a large increase in research grant applicants and applications, and this increase was associated with a decline in the overall success rate of applications. In FY 1998, for example, the NIH received approximately 24,000 new grant applications, and the success rate was 31 percent; in FY 2007, the NIH expects to receive approximately 49,000 new applications, and the success rate is projected at 19 percent. Dr. Zerhouni pointed out that, in FY 2003–04 (a 2-year period), the NIH had the same number of research grant applicants as it did in the full 5 years of the doubling phase (FY 1999–03) (8,359 and 8,303, respectively), and the number of new applicants was the same for the different time periods (502 and 503, respectively).

A secondary factor driving the availability of research funding is budget cycling—that is, the recirculation of funds (through NIH grant commitments) from higher-budgeted years to lower-budgeted years. Dr. Zerhouni noted that NIH's FY 2002 budget is the source of much of the funding for continuing grants in FY 2006 and that, while the demand for research dollars may be higher than the supply of research dollars in FY 2007—as the post-doubling shift tempers—the NIH still expects to increase the number of grants by 3 percent.

Dr. Zerhouni commented on another misconception—that pay lines are equal to success rates. He noted that the pay line is where 99 percent of grants are funded and that every IC funds beyond the pay line. Comparison of data on the success rate per application versus the success rate per applicant shows that the former is always lower than the latter (by approximately 5 percent) and that the chances of an applicant being funded increases significantly when the applicant applies for funding over two review cycles.

Dr. Zerhouni emphasized that biomedical research is a "marathon" and that the focus should not be on "boom-and-bust" periods, but on sustaining the marathon over time. An important aspect of this effort is educating the public about the need to sustain biomedical research. Dr. Zerhouni noted that, in stormy weather, it is time to "batten the sails," "get good facts," and move ahead. He set forth the following four adaptive strategies for NIH and its ICs: (i) know the facts; (ii) develop adaptive strategies—that is, define priorities, protect the essential core mission of advancing knowledge and discovery, manage the supply and demand of competing grants, and develop policies (e.g., the new Pathway to Independence Program) to assist new investigators; (iii) convey a unified message to show that the return on investment (e.g., in HIV/AIDS) at NIH is impossible to overstate, and (iv) embrace the exciting NIH vision for the future.

Dr. Zerhouni noted that the NIH needs to be a global enterprise and that the FIC has had a broad impact on global health. In FY 2004, NIH funding of foreign grants and foreign components of domestic grants totaled almost $850 million and, over the years, the NIH has supported many successful international collaborations—for example, in infectious diseases, genetics, diabetes mellitus, and depression. The fundamental mission of the NIH is research and the system of research is "bottom-up" and is balanced among basic, clinical, and translational research.

Dr. Zerhouni suggested that, for millions of people, the NIH is the "National Institutes of Hope." For the next 20 years, the transformation of medicine is the message. Fundamental research will transform medicine through discovery and will become more predictive, personalized, pre-emptive, and participatory. This progression necessarily has to be international as scientists strive to understand, for example, different genetic makeups and gene–environment interactions.

Discussion

The Board asked about NIH's relationship with the Congress and the supply and demand of research scientists in the United States. Dr. Zerhouni said that the Congress is generally receptive to the NIH and, yet, 40 percent of the members of Congress and their staff do not know what the NIH does. Educating Congress about the level of NIH funding (biomedical research funding at the NIH is less than 1.5 percent of the nation's health care costs), the significance of this funding for U.S. universities and research institutions, the fundamental value of biomedical research, and the long-term nature of research discovery is a continuing effort.

Dr. Zerhouni commented that private foundations are extremely supportive in building research capacity by developing new research fields (e.g., biomedical engineering) and training scientists. Within the United States, 53 percent of postdoctoral scientists are U.S.-born and 47 percent are non-U.S.-born. Because many non-U.S.-born scientists return to their home countries, the tenure-track faculty in the United States are more likely to be U.S.-born than non-U.S.-born.

The Board noted that increased NIH international activities for global health would be timely and could help to counteract the negative perception of the United States in many countries. The Board suggested that the fact that the FIC has done so much with so little should be celebrated and that the new FIC director could work with the NIH director to leverage increased philanthropic support for international research. Dr. Zerhouni noted the benefits of public–private partnerships, such as the NIH Foundation's Grand Challenges in Global Health initiative, and encouraged the FIC leadership to drive the intellectual debate within the NIH to increase support for global health.

IX. GLOBAL MENTAL HEALTH: THE RESEARCH AGENDA FOR LOW- AND MIDDLE-INCOME COUNTRIES

Dr. Arthur Kleinman, FIC Advisory Board Member, and Professor and Chair, Department of Anthropology, Harvard University

Dr. Kleinman described the global burden of mental disorders, relevance of mental illness in poor countries, key mental health issues, resources available for mental health, and problem areas. Globally, 10 percent of adults suffer from a mental disorder and its associated disability and morbidity. Depression/anxiety disorders and substance abuse are the most common disorders worldwide, and suicide is 1 of the 10 leading causes of death in every country. One in 10 children have a childhood mental disorder; and most mental disorders, accounting for possibly more than 75 percent of the burden in a population, have their onset during youth.

The global burden of mental disease varies regionally and accounts for 12–13 percent of the global burden of all diseases. Mental conditions account for 30 percent of all years lived with a disability. Depression causes the largest amount of disability (12 percent); and six mental conditions are among the 20 highest causes of disability. Dr. Kleinman emphasized that that there is no health without mental health and that mental health is a serious health concern among individuals living in poverty, mothers and children, and people living with HIV/AIDS. Suicide rates are 2–3 times higher than homicide rates worldwide, and they approach 45 per 100,000 individuals in countries that are undergoing major socioeconomic changes, such as in Eastern Europe. In China, suicide is the fifth most important cause of death and occurs mostly in rural areas and especially among young rural women. The findings in India are similar, with women in rural areas preponderantly affected.

Dr. Kleinman noted that most mental health problems are comorbid, social–psychiatric conditions which are difficult to define epidemiologically and ethnographically and to prevent or treat. A "No. 1 problem" is stigma, which deters individuals from seeking care and creates family tensions and stress. The availability of care is also a problem. While most disorders could be treated in primary-care settings, with severe mental disorders treated in specialist care, for many countries including the United States, the criminal justice system has become the defacto mental health care system. And, in primary care, most mental health disorders are not diagnosed or are treated only symptomatically with prescriptions of questionable value.

Randomized controlled trials of treatment for mental illness in developing countries indicate the following: (i) there are effective pharmacological and psychosocial treatments for mental disorders which can be delivered in community or primary care settings in developing countries; (ii) effective interventions use locally available and replicable resources; (iii) efficacious treatments significantly reduce total health care costs and disability; and (iv) mental health interventions can be "piggy-backed" efficiently on existing and planned health interventions. Low-cost, technically simple, and acceptable interventions are available.

The major obstacles in providing mental health care are low funding, stigma associated with mental health, inadequate infrastructure, and lack of governmental leadership. Dr. Kleinman remarked that whereas the global burden of mental disorders is 12–13 percent, the median budget for mental health is 2 percent of countries' total health budget. Moreover, high-income countries have 75 percent of the world's psychiatrists, while African countries, for example, have one psychiatrist per 1 million of population. The distribution for psychiatric nurses is the same. The problems of funding and access to care are compounded, especially in urban areas and even in poor countries, by the increasing overdiagnosis of mental illness and inappropriate utilization of pharmacological agents—two situations fueled by pharmaceutical companies' drive to markets.

Problem areas for the delivery of services and for mental health research include education of primary care providers to better diagnose mental disorders, promotion of early intervention, financing of mental health care, assurance of quality care, and understanding of the ethics and forensics of care. Dr. Kleinman called for limited global mental health research collaborations, research training and career development programs for young neurologists and psychiatrists in global mental health, and creation of "mental health population laboratories" in existing research centers. These laboratories would integrate basic science, ethnographic, epidemiological, and

clinical research; generate baseline population data as a platform for intervention programs; and promote research collaborations among scientists in industrialized and developing countries.

Dr. Kleinman noted that although many mental health intervention studies have been conducted, none has been generalized and few have been evaluated robustly. Further, international guidelines and best practices for mental health care have yet to be formulated. Community and sociocultural research are crucially needed, as sociocultural issues (e.g., poverty, gender, stigma, substance abuse, infectious disease, political violence, refugee populations) are integral to mental health problems.

Discussion

"Best Buys." Dr. Glass commented that the DCPP lists mental health care as a "best buy" in reducing the global burden of disease. Dr. Kleinman noted that the cost effectiveness of treating depression and anxiety disorders in primary care is almost the same as that for treating epilepsy, which is considered an outstanding example of cost effectiveness. The treatment of schizophrenia and bipolar disorder, however, is more complex and requires specialist care. Early interventions could be promising and deserve further study. Two other "best buys" for research are prevention of suicide and reduction of stigma. Dr. Kleinman noted that this research should be population-based and would best be added to existing population laboratories in Brazil, China, and India.

Availability of Treatment. Dr. Kleinman reiterated that a major issue is the availability of care—that is, having an adequate number of appropriately trained primary care providers and specialists to diagnose and treat mental illness in all regions, rural as well as urban. He mentioned two potentially useful strategies for developing countries: the training of technicians to treat depression and anxiety disorders in primary care settings, a model that is effective in industrialized societies, and school-based efforts to diagnose and prevent childhood mental disorders. Dr. Kleinman cautioned against the "manufacturing" of mental illness and the proliferation of diagnostic categories as major problems in the United States and emerging issues in urban settings of developing countries.

Comorbidity of Mental Illness. The Board noted the connection between addiction to cigarette smoking and serious chronic disorders. In the United States, for example, data indicate that more than 40 percent of the cigarettes consumed are consumed by mentally ill persons and that 70–80 percent of individuals who are poor and have a mental illness also smoke. Dr. Kleinman suggested that, for developing countries, more research on the comorbidity of mental illness and infectious diseases (e.g., tuberculosis, HIV/AIDS) is particularly needed. The Board raised the issue of depression as a comorbid condition resulting from the use of drugs prescribed as treatment for hypertension and infectious diseases.

Depression and Suicide in Africa. Dr. Kleinman said that depression has been well studied in several African countries, yielding some interesting data, but the extent and nature of depression throughout Africa are unknown. Similarly, suicide is poorly understood in Sub-Saharan Africa other than Nigeria and South Africa. Dr. Kleinman suggested that the complexity of suicide in women, in particular, needs to be better understood worldwide. Global research centers in mental

health could facilitate systematic research on these and other major mental disorders, as well as the training of research personnel and the follow up of research interventions.

Stigma. Dr. Kleinman noted the usefulness of media approaches for raising awareness of mental disorders, such as depression, reducing the stigma associated with these conditions, and increasing individuals' willingness to seek treatment.

X. REVIEW OF APPLICATIONS

Dr. Hrynkow chaired the remainder of the meeting during which the Research Awards Subcommittee reported on its activities. The FIC Advisory Board reviewed a total of 87 scored competing applications at its May 23 meeting.[2] The applications were in the following programs:

- 31 applications for the Fogarty International Research Collaboration Award (FIRCA), out of a total of 58 applications, for $1,017,425;

- 15 applications for the Global Health Research Initiative Program for New Foreign Investigators (GRIP), out of a total of 68 applications, for $771,000;

- 11 applications for the Global Infectious Disease Research Training Program (GID), out of a total of 21 applications, for $1,452,455;

- 2 applications for the International Malaria Clinical, Operational and Health Services Research Training Program (MICOHRTA), out of a total of 3 planning grant applications, for $49,840;

- 9 applications for the AIDS International Training and Research Program (AITRP), out of a total of 10 applications, for $3,335,397; and

- 1 Phase I International Clinical, Operational, and Health Services Research and Training Award for AIDS and Tuberculosis (ICOHRTA-AIDS/TB), out of 1 application, for $81,000.

The Board concurred with the initial review group recommendations for 69 out of 69 applications.

XI. ADJOURNMENT

There being no further business, the meeting was adjourned at 3:00 p.m. on May 23, 2006.

[2] Applications that were noncompetitive, unscored, or not recommended for further consideration by initial review groups were not considered by the Board.

CERTIFICATION

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.

_____	_____
Sharon Hrynkow, Ph.D. Chairperson, Fogarty International Center Advisory Board, and Deputy Director, Fogarty International Center	Jean Flagg-Newton, Ph.D. Executive Secretary, Fogarty International Center Advisory Board, Fogarty International Center

ATTACHMENTS

1 - Board Roster
2 - Report of the Director, FIC, May 23, 2006

Abbreviations Used in the Minutes

AIDS	-	Acquired Immunodeficiency Syndrome
AITRP	-	AIDS International Training and Research Program
CDC	-	Centers for Disease Control and Prevention
CONACYT	-	National Council on Science and Technology, Mexico
CSR	-	Center for Scientific Review
DASPA	-	Division of Advanced Studies and Policy Analysis
DCPP	-	Disease Control Priorities Project
DHHS	-	U.S. Department of Health and Human Services
DIEPS	-	Division of International Epidemiology and Population Studies
DIR	-	Division of International Relations
DITR	-	Division of International Training and Research
FIC	-	John E. Fogarty International Center for Advanced Study in the Health Sciences
FIRCA	-	Fogarty International Research Collaboration Award
FY	-	Fiscal year
GID	-	Global Infectious Disease Research Training Program
GRIP	-	Global Health Research Initiative Program for New Foreign Investigators
HIV	-	Human immunodeficiency virus
ICOHRTA-AIDS/TB	-	International Clinical, Operational, and Health Services Research and Training Award for AIDS and Tuberculosis
ICs	-	Institutes and centers
IMRTP	-	International Malaria Research Training Program
IPA	-	Intergovernmental Personnel Act
NCMHD	-	National Center for Minority Health and Health Disparities
NHLBI	-	National Heart, Lung, and Blood Institute
NIAID	-	National Institute of Allergy and Infectious Diseases
NICHD	-	National Institute of Child Health and Human Development
NIDCR	-	National Institute of Dental and Craniofacial Research
NIDDK	-	National Institute of Diabetes and Digestive and Kidney Diseases
NIH	-	National Institutes of Health
NINDS	-	National Institute of Neurological Disorders and Stroke
NSF	-	National Science Foundation
OAR	-	Office of AIDS Research
OD	-	Office of the Director
POP	-	International Training and Research Program in Population and Health
UNESCO	-	United Nations Educational, Scientific, and Cultural Organization